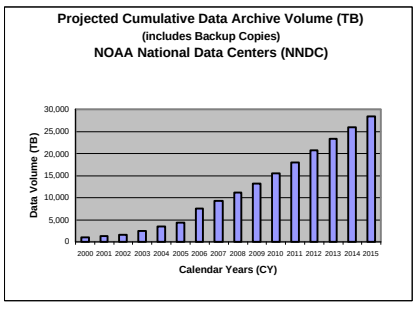
National Environmental Satellite, Data, and Information Service
NOAA Data Centers & Information Services

National Climatic Data Center

Data Storage Files



Projected Data Growth

The National Requirement: The Nation requires access to a long-time series of environmental data, which are vital to practically every sector of the economy, and are used in making decisions critical to; national defense; industrial productivity; energy development and distribution; world food supplies; public health, safety, and welfare; and development of natural resources. Environmental scientists and observers also have a critical need for a long time-series of historical and recent global data to assess long-term environmental trends, to evaluate the status of the environment, and to predict future environmental conditions and events. This makes NOAA data archives a national treasure that our country must maintain and protect.

NOAA's Response: NOAA serves as steward and archivist of the largest collection of atmospheric, geophysical, and oceanographic data in the world. Throughout the 1990s, the NOAA archives experienced steady growth in digital data. The explosion of Internet-based technologies resulted in an enormous increase in the number of users who request and access NOAA environmental data. By the end of 2000, NOAA data volumes comprised approximately one petabyte (10^{15}). By the year 2011, data volumes will increase to well over 18 petabytes. Despite progress made in providing electronic access to NOAA data, vast quantities of data remain accessible only via labor-intensive, manual search and retrieval activities.

Although spending on environmental research and observation programs increased over the years, NOAA undertook associated data management and archive programs without increases in funding. As a result, sufficient resources no longer exist to serve the needs of NOAA data users.

Financing: The FY 2003 Budget includes $60.1 million for the NOAA Data Centers & Information Services budget to increase the capacity of our National Data Centers to ingest, process, and archive environmental data. NESDIS will also improve the procedures for computing climate normal information used by industry, making it appropriate and timely for business planning and decision-making. Funding will also support updating the World Ocean Database to include new sources of data and transitioning this activity to an operational service mode. Recognized international and national programs identify the ocean as playing a critical role in climate change and variability, with subsequent impacts on the national economy.

Funding will also support gathering key paleoclimatic records to reconstruct climate records, which is essential for understanding climate variability on decadal to centennial time scales. Finally, NESDIS will establish a long-term Solar X-ray Imager archive that addresses the need to mitigate space weather events, which cause estimated business losses of $1 billion per year.